

# **Strategic Petroleum Reserve**

## **Proposed Appropriation Language**

*For necessary expenses to carry out Strategic Petroleum Reserve facility development and operations and program management activities pursuant to the Energy Policy and Conservation Act of 1975 as amended (42 U.S.C. 6201 et seq.), [\$169,710,000] \$166,000,000 to remain available until expended.*

### **Explanation of Change**

Decrease from the FY 2005 appropriation reflects the scheduling of fewer major maintenance activities.

**Strategic Petroleum Reserve  
Office of Fossil Energy**

**Overview**

**Appropriation Summary by Program**

(dollars in thousands)

	FY 2004 Comparable Appropriation	FY 2005 Comparable Appropriation	FY 2006 Base	FY 2006 Request	FY 2006 Request vs Base	
					\$ Change	% Change
Strategic Petroleum Reserve.....	170,948	169,710	170,048	166,000	-4,048	-2.4%
Total, Strategic Petroleum Reserve.....	170,948	169,710	170,048	166,000	-4,048	-2.4%

**Detailed Funding Table**

(dollars in thousands)

	FY 2004	FY 2005	FY 2006
Strategic Petroleum Reserve (SPR)			
Facilities Development and Operations.....	155,044	152,946	149,000
Management.....	15,904	16,764	17,000
Total, Strategic Petroleum Reserve.....	170,948	169,710	166,000

**Preface**

The Strategic Petroleum Reserve provides the United States with adequate strategic and economic protection against disruptions in oil supplies. The program’s goal is to mitigate the Nation’s energy and security vulnerabilities and to serve as the global benchmark for petroleum reserves.

Within the Strategic Petroleum Reserve appropriation, there are two programs:

- Facilities Development and Operations
- Management

This Overview will describe Strategic Context, Mission, Benefits, Strategic Goals, and Funding by General Goal. These items together put the appropriation in perspective. The Annual Performance Results and Targets, Means and Strategies, and Validation and Verification sections address how the goals will be achieved and how performance will be measured. Finally, this Overview will address the Program Assessment Rating Tool (PART) and Significant Program Shifts in all programs.

## **Strategic Context**

Following publication of the Administration's National Energy Policy, the Department developed a Strategic Plan that defines its mission, four strategic goals for accomplishing that mission, and seven general goals to support the strategic goals. Each appropriation has developed quantifiable goals to support the general goals. Thus the "goal cascade" is the following:

Department Mission → Strategic Goal (25 years) → General Goal (10-15 years) → Program Goal (GPRA Unit) (10-15 years)

To provide a concrete link between budget, performance, and reporting, the Department developed a "GPRA" unit concept. Within DOE, a GPRA Unit defines a major activity or group of activities that support the core mission and aligns resources with specific goals. Each GPRA Unit has completed or will complete a Program Assessment Rating Tool (PART). A unique program goal was developed for each GPRA unit.

The goal cascade accomplishes two things. First, it ties major activities for each program to successive goals, and ultimately to DOE's mission. This helps ensure the Department focuses its resources on fulfilling its mission. Second, the cascade allows DOE to track progress against quantifiable goals and to tie resources to each goal at any level in the cascade. Thus the cascade facilitates the integration of budget and performance information in support of the GPRA and the President's Management Agenda (PMA).

## **Mission**

The mission of the Strategic Petroleum Reserve (SPR) is to store petroleum to reduce the adverse economic impact of a major petroleum supply interruption to the US and to carry out obligations under the international energy program. At the end of 2004, our inventory was 670 million barrels, which provided 57 days of net import protection. The Reserve will be filled to 700 million barrels in 2005, providing 59 days of net import protection. During 2003, we reevaluated the cavern storage capacity revealing an additional 27 million barrels of capacity available for crude oil storage. This added capacity results from the dissolution of salt by water injected into the caverns during oil movements and the recertification of an existing 12 million barrel cavern previously considered as too gassy for long term crude oil storage. With the acquisition of a degas plant to control crude vapor pressure, the cavern can now be safely used for permanent storage and we are able to increase the Reserve's storage capacity within our current budget targets.

## **Benefits**

The U.S. (and trading partner) reliance on oil and U.S. net oil import levels (forecast to increase) combined with location of significant global oil reserves in regions of the world subject to political unrest, have made the U.S. vulnerable to supply disruptions. The presence of the SPR provides protection from supply disruptions.

## **Strategic Goal**

The Department's Strategic Plan identifies four strategic goals: one each for defense, energy, science, and environmental aspects of the mission plus seven general goals that tie to the strategic goals. The Strategic Petroleum Reserve appropriation supports the following goal:

**Energy Strategic Goal:** To protect our national and economic security by promoting a diverse supply and delivery of reliable, affordable, and environmentally sound energy.

**General Goal 4, Energy Security:** Improve energy security by developing technologies that foster a diverse supply of reliable, affordable and environmentally sound energy by providing for reliable delivery of energy, guarding against energy emergencies, exploring advanced technologies that make a fundamental improvement in our mix of energy options, and improving energy efficiency.

The programs funded within the Strategic Petroleum Reserve appropriation have one Program Goal that contributes to the General Goals in the "goal cascade". This goal is:

**Program Goal 04.58.00.00:** Maintain operational readiness of the Strategic Petroleum Reserve to drawdown at a sustained rate of 4.4 million barrels per day for 90 days, within 15 days notice by the President. Maintain a 2 million barrel reserve of home heating oil in the U.S. Northeast. Utilize the Naval Petroleum Reserve 3 (NPR-3) as a testing and demonstration field for the Rocky Mountain Oilfield Testing Center's ongoing research. Continue closeout and equity finalization activities related to NPR-1 and finalize settlement to the State of California with respect to its claims to be "school lands".

## **Contribution to General Goal**

The programs within the SPR appropriation contribute to General Goal 4 by assuring the Reserve is maintained in a high state of readiness. Assurance is measured by how quickly the program can respond to a Presidential direction to draw down; how much of the oil inventory in SPR storage is available; and the cost efficiency of operations. Facilities Development and Operations funds all requirements associated with developing and maintaining facilities for the storage of petroleum, operations associated with placing petroleum into storage, and operational readiness initiatives associated with drawing down and distributing the inventory within 13-15 days notice in the event of an emergency. Management funds personnel and administrative expenses related to maintaining the Project Management Office (New Orleans, Louisiana) and the Program Office (Washington, DC), as well as contract services required to support management and the technical analysis of program issues.

## Funding by General and Program Goal

(dollars in thousands)

	FY 2004	FY 2005	FY 2006
General Goal 4, Energy Security.....			
Program Goal 04.58.00.00 Petroleum Reserves.....	170,948	169,710	166,000
Total, General Goal 4 (Strategic Petroleum Reserves).....	170,948	169,710	166,000

### Major FY 2004 Achievements

- Reached crude oil inventory level of 670 million barrels. Since receiving Presidential direction to fill to 700 million barrels (in November 2001), over 125 million barrels has been added to the Reserve.

## Annual Performance Results and Targets

FY 2001 Results	FY 2002 Results	FY 2003 Results	FY 2004 Results	FY 2005 Targets	FY 2006 Targets
Facilities Development & Operations and Management					
Complete the transfer of Phase I - Federal Royalty Oil to the SPR by November 2000 per the FY 1999 Agreement with the Department of Interior. (MET GOAL)	Complete the transfer of Phase II and III - Federal Royalty Oil to the SPR. (MET GOAL - Added approximately 19.6 million barrels of Royalty Oil that contributed to the total delivery to inventory of 42.5 million barrels from all Exchange and Federal Royalty Oil agreements.)  Award firm fixed-price turnkey (design/build) contract to provide a portable degas plant for continuous removal of excess gas from the SPR crude oil inventory. (MET GOAL)	Increase crude oil inventory to 628 million barrels. (GOAL NOT MET - The inventory of the SPR at the end of September was 624.4MMB. The variance was caused by deferral of nearly 20 MMB in oil receipts during the Venezuela oil crisis. For this deferral, we will receive an additional 2.9MMB crude premium.)  Complete the Degas Plant design. (MET GOAL)	Increase crude oil inventory to 656 million barrels. (EXCEEDED GOAL: End of year inventory was 670 million barrels.)  Commence full Degas Plant operations at a rate of 100,000 – 150,000 barrels per day by May 2004. (MET GOAL: Processing started April 16).  Degas 23 MMB of crude oil inventory. (MET GOAL)	Increase crude oil inventory to 690 million barrels. (Based on the latest contracts for receipt of Royalty Oil, an inventory of 700 million barrels will be reached by mid-2005).	Achieve maximum sustained (90 day) drawdown rate of 4.4 MMB. Achieve $\geq$ 95% of monthly maintenance and accessibility goals. Achieve operating cost per barrel of capacity of \$0.201.

## **Means and Strategies**

The SPR will use various means and strategies to continue its mission and achieve program goals. Assurance of a readiness posture will be accomplished through internal readiness reviews, assessments, exercises, and tests. Effectiveness of the SPR to mitigate the economic damage of severe oil supply disruptions will be influenced by the SPR's size (inventory and capacity) and ability to deliver into the marketplace. Since FY 1999, the Department has been using agreements with the Department of the Interior to use Federal Royalty Oil to fill the SPR to 700 million barrels. Completion of deliveries is scheduled for 2005. The SPR's Vapor Pressure Mitigation Program includes operation of a portable vapor pressure (degas) plant for continuous removal of excess gas from the crude oil inventory. Full degas plant operations commenced in April 2004.

Performance can be affected by external factors including petroleum market conditions and developments in the commercial distribution system (i.e., pipelines, and terminals). Royalty-in-kind transfers are contingent on annual delivery targets negotiated with the Department of the Interior.

## **Validation and Verification**

There is a hierarchy of performance information for the SPR. The Department collects and tracks the limited "dashboard" measures. The SPR Program Office monitors the "critical few", specific, short and long-term measures. The SPR Project Management Office manages the detailed, operational measures that are implemented by the contractors. Organizational and action plans are reviewed and analyzed at quarterly Program Reviews. Monthly Project Assessments and Project Reviews are conducted to analyze performance against all milestones and contracts. These reviews provide an opportunity to discuss performance and provide direction to contractors. These same measures are reviewed daily during the site managers' site status meetings. Budget formulation/ execution assessments are regularly conducted throughout the year, including annual budget validations. Other evaluations include: semiannual Management & Operating (M&O) contractor award fee performance assessments against Work Authorization Directives; on-site reviews to verify operational, maintenance and management performance data; and draw down readiness quarterly reviews.

## **Program Assessment Rating Tool (PART)**

The Department implemented a tool to evaluate selected programs. PART was developed by the Office of Management and Budget (OMB) to provide a standardized way to assess the effectiveness of the Federal Government's portfolio of programs. The structured framework of the PART provides a means through which programs can assess their activities differently than through traditional reviews.

The current focus is to establish outcome- and output-oriented goals, the successful completion of which will lead to benefits to the public, such as increased national security and energy security, and improved environmental conditions. DOE has incorporated feedback from OMB into the FY 2006 Budget Request, and the Department will take the necessary steps to continue to improve performance.

Assessment under the PART found the SPR to be an effective program, well designed with a clear mission. The total program score was 92%, with individual sections scoring as follows: Program Purpose and Design - 100%, Strategic Planning – 88%, Program Management - 100%, and Program Results – 87%.

### **Significant Program Shifts**

Due to continued geothermal heating and renewed gas intrusion into the crude oil, the SPR initiated a second vapor pressure mitigation program. Continuous removal of excess gas from the SPR crude oil inventory commenced in 2004. Through degassing, the SPR will be able to maintain its full mission capability while delivering crude oil that meets all safety and environmental standards.

A reevaluation of the cavern storage capacity during 2003 revealed that an additional 27 million barrels of capacity is available for crude oil storage for a total storage capacity of 727 million barrels. This added capacity results from the dissolution of salt by water injected into the caverns during oil movements and the recertification of an existing 12 million barrel cavern previously considered as too gassy for long term crude oil storage. With the acquisition of a degas plant to control crude vapor pressure, the cavern can now be safely used for permanent storage and the increased storage capacity is managed within our current budget targets. Under the current schedule, oil fill to 700 million barrels will be completed in 2005. The Reserve remains ready to fill the remaining 27 million barrel capacity if directed.

The Strategic Petroleum Reserve continues to intermittently operate at a higher security alert. Additional security protection Officers have been placed on duty at all sites and a series of 40 security measures have been implemented, as directed by the Office of Security Operations at Department of Energy headquarters. In addition, permanent physical security enhancements have been implemented in response to the perceived threat of continued terrorist activity.

**Strategic Petroleum Reserve  
Office of Fossil Energy**

**Funding By Site By Program**

(dollars in thousands)

	FY 2004	FY 2005	FY 2006	\$Change	%Change
SPR Project Offices .....	162,238	159,440	155,638	-3,802	-2.4%
Washington Headquarters .....	4,888	6,393	6,429	+36	+0.6%
Sandia National Laboratories.....	2,612	2,667	2,723	+56	+2.1%
National Energy Technology Laboratory.....	860	860	860	0	0%
Oak Ridge National Laboratory.....	350	350	350	0	0%
Total, SPR.....	170,948	169,710	166,000	-3,710	-2.2%

**Site Description**

**SPR Project Offices**

The sites located in Texas and Louisiana provides all operational readiness activities (operations, maintenance, security, etc) for the Reserve. Also includes technical and program management support in Washington, DC and New Orleans, Louisiana.

**Washington Headquarters**

The Washington Headquarters includes technical and program management support in Washington, DC.

**Sandia National Laboratory**

The Sandia National laboratory, located in Albuquerque, NM, provides technical, comprehensive, site-specific engineering research and development support for the planning, design, development, and monitoring of Strategic Petroleum Reserve (SPR) crude oil storage facilities.

**National Energy Technology Laboratory**

The National Energy Technology Laboratory (NETL) located in Morgantown, WV, Pittsburgh, PA and Tulsa, OK is a multipurpose laboratory, owned and operated by the U.S. Department of Energy. NETL conducts detailed analysis of crude oil streams, caverns and storage cavern composites to ascertain the quality of stored oil on selected oil samples. These measurements include the vapor pressure and gas-oil ratio.

**Oak Ridge National Laboratory**

The Oak Ridge National Laboratory (ORNL), located in Oak Ridge, TN, provides analytic support to the SPR by documenting SPR analysis models, assisting in the development of SPR oil valuation and bid analysis tools, evaluating potential applications of DIS-Risk model approach related to energy policy issues and evaluating SPR planning alternatives.

## Facilities Development and Operations

### Funding Profile by Subprogram

(dollars in thousands)

	FY 2004 Comparable Appropriation	FY 2005 Comparable Appropriation	FY 2006 Base	FY 2006 Request	FY 2006 Request vs Base	
					Change	Change
Facilities Development and Operations .....	155,044	152,946	152,946	149,000	-3,946	-2.6%
Total, Facilities Development and Operations.....	155,044	152,946	152,946	149,000	-3,946	-2.6%

**Public Law Authorization:**

Public Law 94-163, "Energy Policy and Conservation Act" (FY 2003) As Amended

**Mission**

The mission of Facilities Development and Operations is to provide for all requirements associated with developing and maintaining facilities for the storage of petroleum, as well as operations associated with placing petroleum into storage. Operational readiness activities associated with drawing down and distributing the inventory on a 13-15 day notice in the event of an emergency are also included.

**Benefits**

Facilities Development and Operations provides funding for protection from supply disruptions. The U.S. (and trading partner) reliance on oil and U.S. net oil import levels (forecast to increase) combined with location of significant global oil reserves in regions of the world subject to political unrest, have made the U.S. vulnerable to supply disruptions.

### Detailed Justification

(dollars in thousands)

	FY 2004	FY 2005	FY 2006
<b>Facilities Development and Operations.....</b>	<b>155,044</b>	<b>152,946</b>	<b>149,000</b>

Continue activities for renewed vapor pressure mitigation, to include full degas plant operations at a rate of 100,000 – 150,000 barrels per day. Maintain the Drawdown Readiness Program and perform annual exercises. Continue Recovery Program exercises to maintain readiness and reliability. Address risk

reduction by continuing the ES&H program and corrective action plan activity. Complete the RIK transfer program with the Department of the Interior to fill the Reserve to 700 million barrels in 2005.

Procure pipeline for Raw Water Intake Line at West Hackberry in 2005. Pipeline installation scheduled for FY 2006. Maintain the Drawdown Readiness Program and perform annual exercises. Continue Recovery Program exercises to maintain readiness and reliability. Continue the ES&H Program and corrective action plan development to address unacceptable risks.

<b>Total, Facilities Development and Operations...</b>	155,044	152,946	149,000
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### Explanation of Funding Changes

**FY 2006 vs.  
FY 2005  
\$ (000)**

#### Facilities Development & Operations

Decrease due to completion of Bryan Mound site modifications in FY 2005 offset by increase due to transfer of the Vapor Pressure Plant from Big Hill .....	-3,573
Decreased power requirements for RIK .....	- 906
Increase due to Security Condition Orange .....	<u>+ 533</u>

<b>Total Funding Change, Facilities Development &amp; Operations .....</b>	<b>-3,946</b>
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## Management

### Funding Profile by Subprogram

(dollars in thousands)

	FY 2004 Comparable Appropriation	FY 2005 Comparable Appropriation	FY 2006 Base	FY 2006 Request	FY 2006 Request vs Base	
					Change	Change
Management .....	15,904	16,764	17,102	17,000	-102	-0.6%
Total, Management ...	15,904	16,764	17,102	17,000	-102	-0.6%

### Mission

The mission of Management is to provide for all costs of personnel and administration related to maintaining the Project Management Office in New Orleans, Louisiana and the Program Office in Washington, DC. Includes funding for contract services required to support management and the technical analysis of program issues.

### Benefits

Management provides funding for federal staff and contract support services to ensure protection from oil supply disruptions. Reliance on oil and U.S. net oil import levels (forecast to increase) combined with location of significant global oil reserves in regions of the world subject to political unrest, have made the U.S. vulnerable to oil supply disruptions.

### Detailed Justification

(dollars in thousands)

	FY 2004	FY 2005	FY 2006
<b>Salaries and Benefits .....</b>	11,530	12,545	12,883

Funds salaries and benefits for 128 full time equivalent employees to assure achievement of Level 1 Performance criteria for drawdown and distribution. Provide for support and oversight of M&O contractor and subcontractor activities and program operations. FY 2004 requirements were offset with available carryover. FY 2005 and FY 2006 reflect full funding requirements.

<b>Travel .....</b>	588	477	496
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Provides travel to assure capability to achieve Level 1 Performance criteria for drawdown and distribution. FY 2004 requirements were offset with available carryover. FY 2005 and FY 2006 reflect full funding requirements.

<b>Support Services</b> .....	1,259	2,332	2,302
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Provide analytic support for SPR development, fill and distribution policy decisions. Includes distribution modeling maintenance. FY 2004 requirements were offset with carryover that has been exhausted. FY 2005 and FY 2006 reflects full funding requirements.

<b>Other Related Expenses</b> .....	2,527	1,410	1,319
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Major elements are communications, building lease and electric power for DOE-occupied space (New Orleans, Louisiana), training, small purchases, and personal computer hardware and software. Also includes contractual services, supplies and materials.

<b>Total, Management</b> .....	15,904	16,764	17,000
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### Explanation of Funding Changes

#### Management

<b>FY 2006 vs. FY 2005 \$ (000)</b>
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Mandatory increase for Cost of Living adjustment .....	+338
Decrease reflects reductions in supplies, materials, and contractor services.....	<u>-102</u>
<b>Total Funding Change, Management</b> .....	<b>+236</b>

## Management

### Funding Profile by Category

(dollars in thousands/whole FTEs)

	FY 2004	FY 2005	FY 2006	\$ Change	% Change
<b>Washington Headquarters</b>					
Salaries and Benefits.....	2,538	3,103	3,237	+134	+4.3%
Travel.....	160	135	140	+5	+3.7%
Support Services .....	1,259	2,332	2,302	-30	-1.3%
Other Related Expenses .....	931	823	750	-73	-8.9%
<b>Total, Washington Headquarters .....</b>	<b>4,888</b>	<b>6,393</b>	<b>6,429</b>	<b>+36</b>	<b>+0.6%</b>
Full Time Equivalents .....	27	27	27	0	0.0%
<b>Strategic Petroleum Reserve Project Office</b>					
Salaries and Benefits.....	8,992	9,442	9,646	+204	+2.2%
Travel.....	428	342	356	+14	+4.1%
Support Services .....	0	0	0	0	+0%
Other Related Expenses .....	1,596	587	569	-18	-3.1%
<b>Total, Strategic Petroleum Reserve Project Office.....</b>	<b>11,016</b>	<b>10,371</b>	<b>10,571</b>	<b>+200</b>	<b>+1.9%</b>
Full Time Equivalents .....	101	101	101	0	0.0%
<b>Total, Management</b>					
Salaries and Benefits.....	11,530	12,545	12,883	+338	+2.7%
Travel.....	588	477	496	+19	+4.0%
Support Services .....	1,259	2,332	2,302	-30	-1.3%
Other Related Expenses .....	2,527	1,410	1,319	-91	-6.4%
<b>Total, Management.....</b>	<b>15,904</b>	<b>16,764</b>	<b>17,000</b>	<b>+236</b>	<b>+1.4%</b>
Total, Full Time Equivalents .....	128	128	128	0	0.0%

**SUMMARY OF SUPPORT FOR  
ENERGY INFORMATION ADMINISTRATION (EIA)**

**Strategic Petroleum Reserve**

(dollars in thousands)

PROGRAM	FY 2004	FY 2005	FY 2006
Energy Modeling Forum	5	5	5
ADP System Utilization	50	50	50
Petroleum Analysis/Subscripts	<u>65</u>	<u>65</u>	<u>65</u>
<b>Total</b>	<b>120</b>	<b>120</b>	<b>120</b>

Per the Memorandum of Understanding between the EIA and SPR dated June 13, 1983, funding is provided for the services as computer usage and hardware support, logistics information, and data collection.